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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,452	09/05/2003	Frank Taormina	PD-980042D	1452

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THE DIRECTV GROUP, INC.
PATENT DOCKET ADMINISTRATION
CA / LA1 / A109
P O BOX 956
EL SEGUNDO, CA 90245-0956

EXAMINER	
DINH, TIEN QUANG	

ART UNIT	PAPER NUMBER
3644	

MAIL DATE	DELIVERY MODE
04/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/657,452	TAORMINA ET AL.	
	Examiner	Art Unit	
	Tien Dinh	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-18 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-18 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/13/07,11/27/07,1/08, 2/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draim (5979832) in view of McLeod 3618097.

Draim 5979832 discloses at least four position adjustable satellites (116, 118, 120, 112, etc. see figure 2) that are on MEO (column 1, line 48-49) and on the equatorial plane and spaced apart but is silent on the fixed one-dimensional antenna and the two-dimensional tracking antenna. However, McLeod discloses that one-dimensional antenna and two-dimensional antenna (see column 2, lines 69-75) on a ground terminal are well known.

It would have been obvious to one skilled in the art at the time the invention was made to have used fixed one-dimensional antenna and the two dimensional antenna with the ground terminal in Draim's system as taught by McLeod to allow the communication system to send more information to desired spots and to keep track of the whole satellite system. The use of both a one-dimensional antenna and two-dimensional antenna in Draim's system would clearly provide redundancy and greater control scanning. In view of the KSR v. Teleflex, applying a know technique (such as using a two dimensional antenna with a one dimensional antenna) allows greater controls scanning and a good back up if one antenna were to fail.

Re claim 9, please note that the satellites are position-adjustable since it has to be launched from earth and deployed from a booster with deployment means such as small rockets. Plus, satellites with rockets/thrusters on them to change its positions are well known in this day and age. If applicant disagrees with this, the examiner takes official notice. It would have been obvious to one skilled in the art at the time the invention was made to have used thrusters to position the satellite to the correct orbit. Please note that Draim discloses satellites that are spaced apart so that other satellites can be interleaved therebetween.

Please note that the ground terminal being fixed is well known since buildings are rooted. See TV, satellite ground stations, etc. Please also that a terminal can be fixed since this merely involves routine method that one skilled in the art can use to make sure the terminal doesn't move.

Please note that ground terminal that provides network operational control/satellite position control/communication link (such as phone line, cable/tv lines, etc. is well known in this day and age. One skilled would have used ground terminal that provides network operational/satellite position control to allow the satellite to safely and efficiently provide signals to the desired spot.

Re claims 16 and 17, please note that satellite 126 is interleaved between satellites 114 and 116. Satellite 128 is interleaved between 112 and 114. Other satellites are also interleaved in figure 2 also. This can increase the elevation angle at populated elevations. See claims 7-9. The satellites are A1-A4 and C1-C5. They interleaved as shown in figure 2.

Re claim 18, since there are many rings of satellites and they can be inclined (see claims 8 and 9 of Draim), one skilled in the art would have used additional satellites that have the same

orbital inclination. These additional satellites would also be inclined and be in MEO to act as redundant satellites. The examiner also takes official notice that inclined MEO satellites are well known and that one skilled in the art would have used inclined MEO satellites to provide greater coverage of the Earth.

Re claim 20, the satellites are clearly in the equatorial plane as shown in figure 1 and also in figures 2-4. The orbits trace the pattern that matches are those of equatorial plane.

Response to Arguments

Applicant's arguments filed 12/11/07 have been fully considered but they are not persuasive.

The examiner again disagrees with the applicant that Draim do indeed teaches at least four satellites that are in MEO orbits. The applicant has also questioned the rejection based on hindsight. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Plus, the examiner reminds the applicant that using a two dimensional antenna with a one dimensional antenna allows greater controls scanning and a good back up if one antenna were to fail. This is a good predictable result. Where a claimed improvement on a device or apparatus is no more than "the simple substitution of one known element for another or the mere application

of a known technique to a piece of prior art ready for improvement," the claim is unpatentable under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d 1509, 1518-19 (BPAI, 2007) (citing KSR v. Teleflex, 127 S.Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007)). Accordingly Applicant claims a combination that only unites old elements with no change in the respective functions of those old elements, and the combination of those elements yields predictable results; absent evidence that the modifications necessary to effect the combination of elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a). Ex Parte Smith, 83 USPQ.2d at 1518-19 (BPAI, 2007) (citing KSR, 127 S.Ct. at 1740, 82 USPQ2d at1396. Accordingly, since the applicant[s] have submitted no persuasive evidence that the combination of the above elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a) because it is no more than the predictable use of prior art elements according to their established functions resulting in the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is 571-272-6899. The examiner can normally be reached on 12-8.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on 571-272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tien Dinh/
Primary Examiner, Art Unit 3644